1 397 536

PATENT SPECIFICATION

(11) 1 397 536

(21) Application No. 13860/71 (22) Filed 7 May 1971
(23) Complete Specification filed 7 Aug. 1972
(44) Complete Specification published 11 June 1975
(51) INT CL² F23D 13/00
(52) Index at acceptance
F4T L4B M14 M1 M2 M6 P10 P1 P3B P9

(19)

(54) IMPROVEMENTS IN OR RELATING TO GAS BURNERS

(71) I, CHARLES CARL TRAPP of 5, Burnside Drive, Bramcote Hills, Nottingham, in the County of Nottingham a British Subject, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to gas burners.

Gas burners are made in a variety of shapes and sizes to suit their particular application. Each burner consists of a number of parts which are usually brazed or welded together to form a permanently sealed unit. Such burners have both a fuel gas and an air intake and in use any impurities in the surrounding air are drawn into the burner and form deposits in and around the flame ports which in time impairs the flame and reduces the efficiency of the said burner.

When this occurs it is not possible to open up this type of burner to clean the affected parts or make any adjustments or to replace any parts since all joints are permanently sealed and the only solution is to replace the whole burner. Further it is desirable to be able to service the burners on site with the minimum disturbance to any associated apparatus. Also it is advantageous to have some ready means of access to the inside of such burners.

In accordance with the present invention there is provided a gas burner comprising a first section including a tubular burner body having an end plate with an aperture therein communicating with the interior of the burner body, and a second section including an end wall having a venturi tube projecting therefrom and a fuel gas and air inlet chamber on the side of said end wall remote from said venturi tube, and a fuel gas inlet communicating with said inlet chamber, the end wall of the second section and the end plate of the first section having co-operating bayonet type securing means as hereinafter defined whereby the two sections can be releasably secured together with the venturi tube passing through the aperture into the burner body.

Reference is now made to the accompanying drawings in which:—

Figure 1 is a longitudinal section of part of a burner according to the present invention in an assembled state.

Figure 2 is a similar view to Figure 1 with the burner in a disembodied state.

Figure 3*a* and 3*b* are end views of mating parts of the burner of Figures 1 and 2.

In Figures 1 and 2 there is shown a burner 10 having a first section 11 including a tubular burner body 12 having an upper wall or burner strip 13 containing burner ports (not shown). The body 12 has an end plate 14 including an aperture 15 which communicates with the interior of the body.

The burner 10 also includes a second section 16 including an end wall 17 having a venturi tube 18 projecting therefrom. The second section 16 also includes a fuel gas and air inlet chamber 20 on the side of the end wall 17 remote from the venturi tube 18. A fuel gas inlet 21 is provided which communicates with the chamber 20 and is located directly opposite the venturi tube's mouth 18*a* as is clearly shown in Figures 1 and 2. The chamber 20 is also provided with an air inlet 28. The first and second sections are provided with co-operating bayonet type securing means which permit the two sections to be releasably secured together with the venturi tube passing through the aperture 15.

The bayonet type securing means is defined by the provision of a cylindrical portion 17*a* having a plurality of radially extending lugs 24 on end wall 17 and the provision in end plate 14 of a plurality of slots 25 which permit the passage of the lugs as the venturi tube is introduced into the burner body 12. Co-operating with the slots are bearing surfaces 26 which are defined by inner marginal portions 29 of a slotted cylindrical portion 30 extending axially

[*Price 33p*]

inwardly of the burner body. Thus, on introduction of the lugs 24 into the slots 25, relative rotation of the first and second sections causes the lugs 24 to ride on the bearing surfaces 26 and so lock the two sections together. A seal 27 is provided on the end wall 17 so that when the first and second sections are in locked engagement, there is a sealed connection between the end plate 14 and the end wall 17 to provide a gas tight joint. Preferably, the bearing surfaces 26 are angled such that on relative rotation of the first and second sections into the locked engaged position, the end plate 14 and end wall 14 are moved toward one another to compress seal 27. It will be appreciated that, if desired, the lugs may be provided on the first section and that the slots and bearing surfaces may be provided on the second section.

It is to be noted that in this specification the term 'bayonet type securing means' does not include securing means including a key hole slot which is co-operable with a peg having a circumferential flange, and accordingly the reference above to "bayonet type securing means as hereinafter defined" and the reference below to "bayonet type securing means as hereinbefore defined" are intended to indicate this exclusion.

Having regard to the provisions of Section 9 of the Patent Act, attention is directed to the claims of Patent No. 1,303,545.

WHAT I CLAIM IS:—

1. A gas burner comprising a first section including a tubular burner body having an end plate with an aperture therein communicating with the interior of the burner body, and a second section including an end wall having a venturi tube projecting therefrom and a fuel gas and air inlet chamber on the side of said end wall remote from said venturi tube, and a fuel gas inlet communicating with said inlet chamber, the end wall of the second section and the end plate of the first section having co-operating bayonet type securing means (as hereinbefore defined) whereby the two sections can be releasably secured together with the venturi tube passing through the aperture into the burner body.

2. A gas burner according to Claim 1 in which the co-operating securing means comprises a cylindrical projection having a plurality of radially outwardly extending lugs provided on one section, a plurality of slots to permit the passage of said lugs and a respective bearing surface for each of said lugs, the slots and bearing surfaces being provided on the other section.

3. A gas burner according to Claim 2 in which the cylindrical projection and the lugs are provided on the second section.

4. A gas burner according to Claim 2 or 3 in which the bearing surfaces comprise inner marginal portions of a slotted cylindrical portion extending axially inwardly of said burner body and surrounding said aperture.

5. A gas burner according to any of Claims 1 to 4 wherein a sealing ring is provided which in the assembled burner is located between the end wall and end plate.

6. A gas burner substantially as herein described with reference to the accompanying drawings.

ERIC POTTER & CLARKSON,
Chartered Patent Agents,
Nottingham.

Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1975.
Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.

1397536 COMPLETE SPECIFICATION

1 SHEET This drawing is a reproduction of the Original on a reduced scale

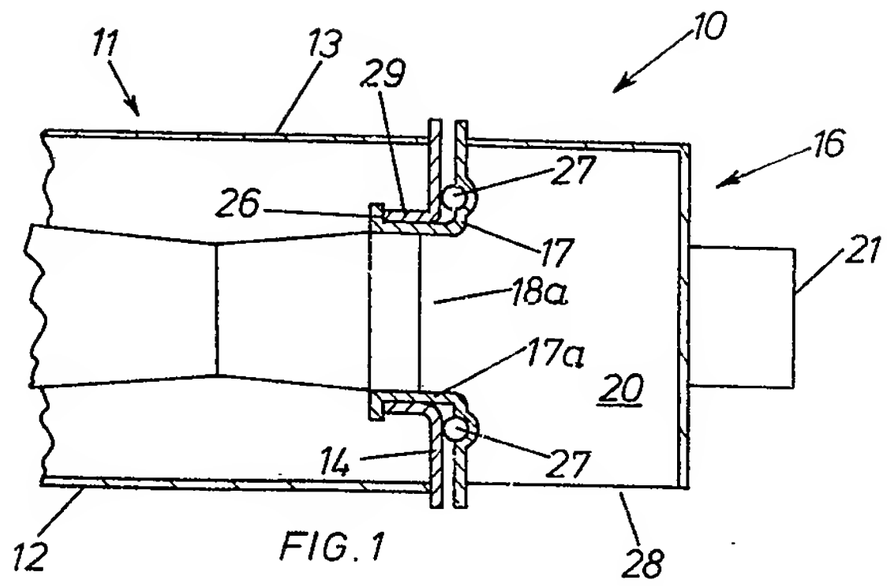

FIG. 1

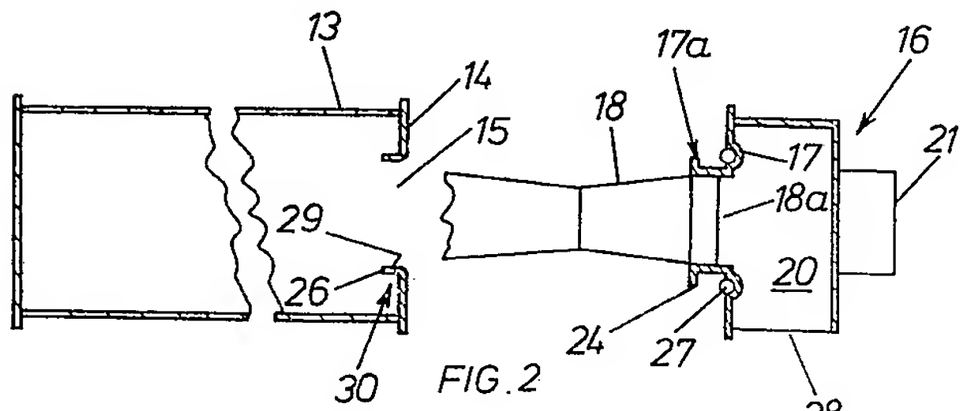

FIG. 2

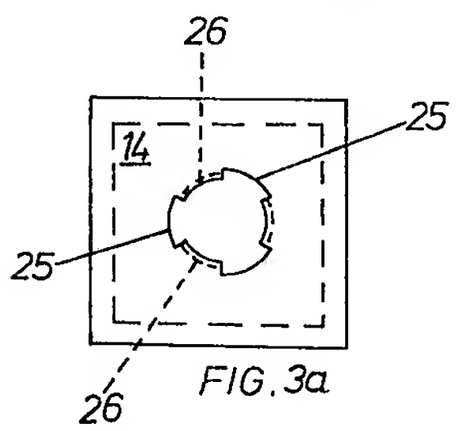

FIG. 3a

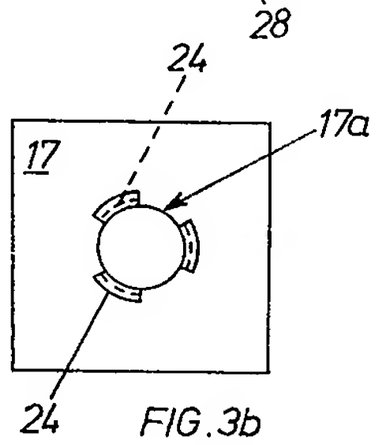

FIG. 3b

DERWENT-ACC-NO: 1975-G2653W

DERWENT-WEEK: 197524

TITLE: Two-part gas burner has bayonet type coupling to releasably secure burner parts together

PATENT-ASSIGNEE: TRAPP C C[TRAPI]

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
GB 1397536 A	June 11, 1975	EN

INT-CL-CURRENT:

TYPE	IPC DATE
CIPS	F23D14/10 20060101

ABSTRACTED-PUB-NO: GB 1397536 A

BASIC-ABSTRACT:

The gas burner comprises a first section including a tubular burner body having an apertured end plate, and a second section including an end wall having a venturi portion projecting therefrom and a fuel gas and air inlet chamber on the side of the end wall remote from the venturi tube. A fuel gas inlet communicates with the inlet chamber. The end wall of the second section and the end plate of the first section have co-operating bayonet type securing means whereby the two sections can be releasably secured together with the venturi tube passing through the aperture into the burner body. This facilitates cleaning etc. of the burner.

DERWENT-ACC-NO: 1975-G2653W

TITLE-TERMS: TWO PART GAS BURNER BAYONET TYPE COUPLE RELEASE SECURE

DERWENT-CLASS: Q73